

New Bridge Road Alloways Creek Bridge
New Jersey Coastal Heritage Trail
Spanning Alloways Creek on
New Bridge Road (County Road 623)
Hancock's Bridge Vicinity
Salem County
New Jersey

HAER No. NJ-88

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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Survey
National Park Service
Department of Interior
Washington, D.C. 20013-7127

HISTORIC AMERICAN ENGINEERING RECORD

NEW BRIDGE ROAD ALLOWAYS CREEK BRIDGE

HAER No. NJ-88

Location: Spanning Alloways Creek, Hancock's Bridge Vicinity, Lower Alloways Township, Salem County, New Jersey [carrying the New Bridge Road (CR623)]

Construction date: 1905

Builder: New Jersey Bridge Company, Manasquan, New Jersey

Owner: Salem County, New Jersey

Use: Used by local traffic traversing the creek and tidal wetlands near the Delaware Bay.

Significance: The bridge is an excellent South Jersey example of a center-bearing, steel-truss swing span with ornamental finials and latticework, and it is one of a handful of documented surviving U.S. bridges built by the New Jersey Bridge Company.

Description: The bridge is a 110'-foot-long single-lane, wood-decked, center-bearing, steel through truss swing span with a 37'-long, three-panel riveted Warren pony truss span on the north side. The main span is a 9-panel truss with a central tower. At the first panel it is 8' deep; at the tower, 22'. The lower chord consists of angles with lacing, and the upper chord of channels with lacing and a cover plate. All connections are riveted. The verticals are laced angles or channels, and the diagonals are channels with battens. The central tower has latticed portals, lateral tie rods, and two of four original urn-shaped finials. Tower plaques read: "1905. Built by New Jersey Bridge Co., Manasquan NJ."

The swing span is inoperable but the operating mechanism is extant. It is a center-bearing type, hand-powered by a crank attachment inset in the deck. The crank turned a pinion gear against a circular rack. The rack is mounted to the top of the center pier. The bridge, designed to open in either direction, turns on a center bearing. A box-shaped system of four girders with four balance wheels supported and balanced the bridge on the center pier when it was open. The south end of the bridge rests on steel rollers with axles perpendicular to the length of the bridge. They were hand operated by levers and designed to lift the bridge in the closed position, lock it in place, and provide it with a footing on the abutment. The swing span has timber pile fenders, it provided a 42" channel to river navigation, and last opened in the mid 1980's.

Numerous alterations have been made to the substructure and approach span, but none seriously compromise the bridge's overall integrity of design. The original piers and abutment were masonry. In 1925 the center pier was widened and reinforced with concrete. In 1942 the south abutment was rebuilt with concrete, and in 1957 the abutments were raised by approximately 12". In 1966 the northern pier and abutment were reinforced with concrete. In 1970, following a vehicular accident, an end post and portion of the lower chord of the west side of the pony truss were replaced and repairs made to the panel points. One vertical on the east side of swing span was replaced, and the lattice railings were removed and beam guardrails added. In 1972 the approach span was strengthened with the addition of longitudinal steel stringers that effectively relieved the pony trusses of load-bearing responsibility. In 1991 the single-lane bridge was closed to vehicular traffic due to safety concerns and structural inadequacies.

Historical and Technological Significance: The New Bridge Road Alloways Creek Bridge is one of the few surviving examples of a bridge constructed by the New Jersey Bridge Company of Manasquan, and it is one

of the only remaining thru-truss swing span highway bridges in the state. The New Jersey Bridge Company was a significant in-state manufacturer of highway bridges, although never recognized as a major national bridge builder. The swing span over Alloways Creek is representative of a once very popular late nineteenth and early twentieth century movable span bridge technology that is becoming increasingly rare. The only other known thru-truss swing span is the Mill Street Bridge over Oldmans Creek in Salem County (Bridge No. 1700199), which has been heavily altered.

The New Jersey Bridge Company operated from 1890 to 1907. The company was started by two Ohioans named Wyckoop and Braly. They built a 300' x 100' shop in Manasquan on Atlantic Avenue, adjacent the railroad tracks. At the height of the operation they employed 15 to 20 draftsmen and 100 men in the fabricating shop. According to a local history, the company "was the largest individual manufacturing facility ever to have existed Manasquan." In 1904-04 the company ran into financial difficulties after securing the contract to build a large swing span, Long Bridge over the Fore River, in Portland, Maine. Unable to meet its obligations, the company went out of business in 1907. The company went into bankruptcy when an era of small, regional, independent bridge manufacturers was coming to an end.

Many bridges built by the New Jersey Bridge Company were erected in Middlesex and Monmouth counties, though no surviving examples have been identified. Another New Jersey Bridge Company span carries Port Republic Road over Nacote Creek (1903) in Atlantic County. In Salem County, a slightly larger and less well preserved, thru-truss swing span bridge spans Oldmans Creek near Pedricktown. According to local records, in 1906 the New Jersey-West Virginia Bridge Company constructed the Pedricktown Bridge based on the same specifications prepared for the swing span at Alloways Creek. A relationship of the New Jersey Bridge Company to the New Jersey-West Virginia Bridge company is not known, but it seems a reasonable assumption that latter was a merger or buy-out intended to save the former from bankruptcy.

A bridge has spanned Alloways Creek at the site of New Bridge since the early nineteenth century. In 1906 the Salem County Board of Freeholders decided to replace the worn-out wood drawbridge with a new steel swing span. They draw specifications for the new bridge and advertised for bids. At a price of \$10,200, the New Jersey Bridge Company was the lowest bidder of seven companies.

Sources:

Hool, George A., and W. S. Kinne, eds. Movable and Long Span Bridges. NY: McGraw-Hill, 1923.

Inventory Form (draft), New Jersey Historic Bridge Survey, N.J. Department of Transportation, Bureau of Environmental Analysis. February 1993.

Manasquan Chamber of Commerce. Manasquan, New Jersey. 1962.

Manasquan Historical Society. "New Jersey Bridge Company File." Historic photographs of the company shops are available here.

Salem County Board of Chosen Freeholders. Minute Books. 1905.

Salem County Engineer. Plans and Bridge Cards. #1399.

Salem Sunbeam. 11, 16 August; 20 September 1905.

Sebold, Kimberly, and Sarah Amy Leach. Historic Themes and Resources within the New Jersey Coastal Heritage Trail: Southern New Jersey and the Delaware Bay. Washington, D.C.: U.S. Department of the Interior, 1991.

Project Information:

This project was sponsored by the New Jersey Coastal Heritage Trail (NJCHT) of the National Park Service, Janet Wolf, director. The documentation was undertaken by the Historic American Buildings Survey (HABS), Robert Kapsch, chief, under the direction of HABS historian Sara Amy Leach, project supervisor. Three historians completed the research during summer 1991: Field supervisor Sarah Allaback (Massachusetts Institute of Technology), Alfred Holden (University of Vermont), and Camille Gatz (North Carolina). David Ames (University of Delaware) made the large-format photographs. Historian, Elizabeth Harris May (George Washington University), edited the HABS reports.